Message

**From**: Smidinger, Betsy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=08E9600128AD456D9DF9BA1CB816AA8E-BSMIDING]
**Sent**: 3/28/2018 9:23:47 PM
**To**: Vranka, Joe [vranka.joe@epa.gov]; Stavnes, Sandra [Stavnes.Sandra@epa.gov]; Murray, Bill [Murray.Bill@epa.gov]
**Subject**: RE: Request for Silver Bow & Anaconda info (COB Wednesday)

Joe – I think this is fine. We can fill him in while he is here on the negotiations at Butte and the Anaconda trip.

Thanks

**From:** Vranka, Joe
**Sent:** Wednesday, March 28, 2018 2:51 PM
**To:** Smidinger, Betsy <Smidinger.Betsy@epa.gov>; Stavnes, Sandra <Stavnes.Sandra@epa.gov>; Murray, Bill <Murray.Bill@epa.gov>
**Subject:** FW: Request for Silver Bow & Anaconda info (COB Wednesday)

Hi, Betsy and Bill:

The information below is what I'm planning on sending back to HQ (see Jen Hovis' request at the bottom of this email string). Please let me know if you have any questions or revisions.

Thank you,

Joe

**Anaconda Co. Smelter Superfund Site**

- At the request of Anaconda-Deer Lodge County and the Anaconda School District, EPA sampled interior dust and indoor air at three public schools and the head start school between March 24 and 28, 2018 (during spring break). Analytical results for lead and arsenic should be available before the end of the school year.
- EPA worked with ATSDR, Atlantic Richfield Company, Anaconda-Deer Lodge County Health Department, Montana Department of Health and Human Services, and Montana Department of Environmental Quality to begin planning for scoping and conducting a public health study in response to a request from the county.
- The EPA Regional Administrator will be visiting Anaconda the second week of April 2018 to present EPA's plan for moving ahead with cleanup either through a consent decree or under unilateral order to complete cleanup by 2025.
- Atlantic Richfield Company continues Community Soils OU residential sampling and cleanups (~500 homes/year) and Regional Water, Waste and Soils OU cleanup of upland areas, waste sources, and streams under existing unilateral orders.

More About Anaconda

- The 300-square-mile Anaconda Co. Smelter site is located at the southern end of the Deer Lodge Valley in Montana, at and near the location of the former Anaconda Copper Mining Company.
- As a result of ore processing operations, wastes contaminated soil groundwater and surface water with hazardous chemicals.
- The contaminants of concern at the site are arsenic, copper, cadmium, lead and zinc.
- EPA placed the Anaconda Co. Smelter site on the National Priorities List (NPL) September 1983.
- Cleanup is complete at several areas within the site and operation and maintenance activities are ongoing at these areas. cleanup activities are underway at the remaining areas.
- The site consists of multiple areas, referred to by EPA as operable units (OUs).

OU15, Mill Creek: The remedy selected in 1987, included permanently relocating all Mill Creek residents, removing demolition debris and contaminated soils for later disposal, regrading and replanting areas disturbed by relocation/demolition activities, monitoring and maintaining the vegetation, and controlling access to the area. Construction of the remedy finished in late 1988. Operation and maintenance activities are ongoing.
OU11, Flue Dust: The remedy selected in 1991, included stabilization of about 316,500 cubic yards of flue dust, placement of the treated materials in an engineered repository, long-term maintenance and monitoring, and institutional controls. The remedy required that the repository include a liner, leak detection and collection system, groundwater monitoring wells, and a cap. Construction of the remedy finished in September 1996. Operation and maintenance activities are ongoing.
OU7, Old Works/East Anaconda Development Area: The remedy selected in 1994, included placement of engineered covers over waste, treatment of soils, surface water controls, upgrades or repairs to streambank levees, replacement or repairs to bridges, institutional controls, long-term monitoring and preservation of historic features. OU7 consists of six subareas. Construction is complete at five of the six areas. Construction at the sixth area, the Industrial Area, is nearly complete.
OU16, Community Soils: The remedy for residential soils, selected in 1996 and modified in 2013, included removal of arsenic-contaminated soils and replacement with clean soil. This remedy also called for the cleanup of future residential soils through institutional controls. The remedy for commercial/industrial areas and the active railroad area included placement of engineered covers. Construction of the remedy was finished in 2010. Operation and maintenance activities are ongoing. The 2013 modification to the Community Soils remedy, included cleanup of lead-contaminated residential soil, expanding the institutional controls program and development of an interior dust abatement program. Implementation of this remedy began in 2015 and is ongoing.
OU4, Anaconda Regional Water, Waste and Soil: The remedy selected in 1998 and modified in 2011 included consolidation of miscellaneous waste materials, placement of engineered covers over waste management areas, treatment of contaminated soils, storm water controls and institutional controls, including the monitoring and regulation of domestic wells in groundwater areas. A Technical Impracticality Waiver for arsenic in groundwater has been applied to large areas of the site. The OU consists of 15 subareas. Remedial action is ongoing at most of the subareas. Over 10,000 acres have been remediated to date. Construction is expected to be completed over the next 10 years.

- Cleanup has been ongoing since late 1980's; over $350 million has been spent on cleanup to date.
  - Nearly 1000 residential and commercial properties have been cleaned up to date, with another 1000 to be completed in the next three+ years.
  - All domestic wells and/or water supplies have either been tested and/or remediated (treatment units) within the site. Wells will be continued to be sampled/treated.
  - Over 3 million cubic yards of waste have been removed from the community and consolidated onto AR property.
  - Over 5000 acres of the former smelter facility and disposal areas have been capped and revegetated.
  - Nearly 1000 acres of new wetlands have been constructed and another 5000 acers protected.
  - Over 12,000 acres of adjacent contaminated soils have been reclaimed and support wildlife & grazing lands.
  - 140,000 feet of stormwater controls placed to reduce contaminated sediments from impacting streams
  - 30,000 feet of stream have been restored providing for a high-quality fishery.
- Cleanup work was coordinated with local development partners for current reuse: Jack Nicklaus Golf Course; Regional Prison Facility; Peak Power Generating Plant; Campus complex; residential and commercial developments; Reuse of slag materials as a commercial product. A processing facility is currently being constructed to turn slag into proppant and pig iron.

**Silver Bow Creek/Butte Area (SBCBA) Superfund Site**

Butte Priority Soils OU8

- EPA reached an Agreement In Principle with the State of Montana, Butte-Silver Bow City-County, and Atlantic Richfield Company on the terms of a consent decree for Butte Priority Soils OU8.

- Cleanup to date has been conducted under unilateral order, but the consent decree would resolve outstanding claims and counterclaims and implement remaining stormwater controls, waste removal, and long-term operations and maintenance for this OU.
- EPA is working with the parties on a motion for the court to allow public dissemination of some of the plans for final implementation of cleanup work.
- EPA will be preparing a proposed plan for ROD amendment to incorporate and change certain remedy elements consistent with the final remedy.
- EPA's goal is to get a consent decree signed before the end of calendar year 2018, and complete remaining remedy construction by 2024.
- EPA Regional Administrator visited Butte January 25 and 26, 2018, to conclude agreement in principle negotiations and present EPA's plan for completion of the remedy to the public.

Butte Mine Flooding/Berkeley Pit OU3

- The proposed Pilot Project to pump Berkeley Pit water earlier than expected and discharge to Silver Bow Creek been conceptually approved and Montana Resources and Atlantic Richfield are currently working on developing draft work plans and sampling plans to pump, treat, and discharge as early as spring 2019.
- The Remedial Action Adequacy Review (RAAR) is required under the 2002 Consent Decree for the Butte Mine Flooding OU and the main objective of the review is to determine if the current treatment facility is adequate to handle the water quality and volume of water as we approach the critical water level. This review works in parallel with the pilot project and the pilot project will help to provide solutions to the RAAR.
- The Migratory Waterfowl Mitigation Plan is being revised in response to the bird mortality event in November 2016. EPA is involved in an interagency technical committee to update the Waterfowl Mitigation Plan to prevent birds from landing in the Pit and prevent another snow geese mortality event.
- Hazing efforts with new technologies have been very successful. Spring migration is almost over, however a heightened level will be maintained as long as birds are still moving north.

More about Butte

Located in the upper Clark Fork River Basin, Silver Bow and Deer Lodge Counties, Montana, SBCBA is the headwaters site of the Clark Fork River Basin cluster of Superfund sites and represented one of the largest Superfund cleanups in the nation.

SBCBA includes approximately 26 miles of stream and streamside habitat, the urban centers of Butte and Walkerville, rural areas outside of Butte, the Berkeley Pit and the underground mine workings of the historic Butte Mining District, the former Rocker Timber Framing and Treatment Plant and the treatment/settling lagoons at the Warm Springs Ponds that was impacted by historic mining activities.

Silver Bow Creek was placed on the NPL in 1983 and Butte was added in 1987. Cleanup began in 1988. The site is currently divided into seven active operable units (OU). EPA has completed four five-year reviews of the site's remedy to ensure that the remedies put in place for each OU are protective of public health and the environment and function as intended by site decision documents.

- **Streamside Tailings OU1** – includes the 26-mile, mine-waste impacted Silver Bow Creek floodplain. Continued protectiveness of the OU1 remedy requires completing implementation of the selected remedy; filling in data gaps; implementing enforceable institutional controls; and updating and implementing the monitoring and maintenance plan.
- **Butte Mine Flooding OU3** – includes contaminated groundwater in the flooded underground mine workings below the city of Butte along with contaminated water in the Berkeley Pit. The West Camp/Travona Mine OU6 was previously part of this OU, but treatment of the West Camp groundwater was transferred to OU8 with the BPSOU ROD. Continued protectiveness of the OU3 remedy requires resolving treated effluent water quality issues before discharge to Silver Bow Creek becomes necessary.
- **Rocker Timber Framing and Treating OU7** – includes soils and groundwater contaminated with arsenic from a former timber treating facility. Continued protectiveness of the OU7 remedy requires ongoing monitoring;

continued implementation of institutional controls, site access controls, updated conceptual site model; and operation and maintenance activities.

- **Warm Springs Ponds (WSP) Active Area OU4** – includes the portion of the 2,600-acre WSP that actively treat the entire flow of Silver Bow Creek prior to its confluence with Warm Springs Creek, forming the start of the Clark Fork River. It also includes the reconstructed Mill-Willow Bypass. Continued protectiveness of the OU4 remedy requires remedy implementation progress at other upstream OUs.
- **Warm Springs Ponds Inactive Area OU12** – includes the portion of the 2,600-acre WSP that are not part of the active treatment of Silver Bow Creek water. Continued protectiveness of the OU12 remedy requires remedy implementation progress at other upstream OUs.
- **Butte Priority Soils OU8 (BPSOU)** – includes impacted soils, mine wastes, and contaminated attic dust located within portions of the city of Butte, along with mining-impacted alluvial groundwater and surface water associated with the historic and current Silver Bow Creek floodplain within the city of Butte. Remedy is not fully implemented.
- **West Side Soils OU13** – includes the mining-impacted areas generally north and west of the Butte Hill that are not included in the BPSOU or the permitted active mining area. West Side Soils Operable Unit

Since cleanup began in 1988, EPA has overseen numerous removal and remedial cleanup actions:

- 18 million cubic yards of tailings, mine wastes, and contaminated soils have been removed and placed in repositories
- 4,000 acres of land have been cleaned up, reclaimed and/or capped
- 6 billion gallons of contaminated ground water have been collected and treated every year since 2003 (14 years = 84 billion gallons)
- 17 trillion gallons of surface water have been treated every year since 1993 (24 years = 4.08 quadrillion gallons)
- 2,697 residential properties have been sampled for soil and dust contamination
- 467 yards & 615 attics have been cleaned up, and 500-700 children are tested annually

Remaining clean up work needs to be finished:

- At OU1, Montana DEQ is working to clean up remaining hot spots.
- At OU3, Atlantic Richfield and Montana Resources are working to improve migratory bird hazing techniques and evaluating upgrades for the Horseshoe Bend Water Treatment Plant that may be required.
- At OUs 4 & 12, Atlantic Richfield continues to evaluate the performance of the lime treatment and ponds for operational improvements. Final Records of Decision will be needed once all upstream cleanup is complete.
- At OU 7, Atlantic Richfield is developing a revised model to help evaluate the need for additional action to address arsenic contamination in ground water.
- At OU 8, a consent decree or unilateral administrative order will direct the construction of:
- Additional stormwater controls/catch basins along upper Silver Bow Creek, Buffalo Gulch, and Grove Gulch
- Additional removal of contaminated sediments, streambanks, and floodplain materials along Silver Bow Creek and Blacktail Creek and additional capture and treatment of contaminated ground water
- Additional work on Butte Reclamation Evaluation System unreclaimed and insufficiently reclaimed sites
- Additional residential sampling and cleanup under the Butte Residential Metals Abatement Program
- At OU 13, a remedial investigation, feasibility study, and record of decision will determine the cleanup.

<u>West Side Soils (WSS) OU13</u>

- In the 2006 Record of Decision for Butte Priority Soils, the area north and west of Butte was designated West Side Soils Operable Unit.
- It is a sparsely populated area with over 400 mine waste piles and no known historic processing facilities (mills or smelters). Initial data did not indicate any immediate human health concerns in this area.
- EPA plans to begin a remedial investigation and feasibility study for this area this year (2018).

**From:** Hovis, Jennifer
**Sent:** Tuesday, March 27, 2018 6:55 AM
**To:** Vranka, Joe <vranka.joe@epa.gov>; Greene, Nikia <Greene.Nikia@epa.gov>
**Cc:** Hopkins, Tracy <Hopkins.Tracy@epa.gov>
**Subject:** Request for Silver Bow & Anaconda info (COB Wednesday)

Joe and Nikia,

You may have heard thru other channels that an effort is afoot to provide Jim Woolford with background materials in advance of him coming out to Denver for management discussions next week. While I generally hate the idea that HQ goes to the region for info to update our management, it is always the best way to arm him with the latest information.

I'm not sure if there is a formal briefing set up on Butte next week, but he did ask for the latest on "Butte Site including Berkeley Pit, Anaconda, etc." (his words). The latest we have from the region is below, though it was developed with a tribal focus so it doesn't exactly hit the mark.

There is no set format for these updates for Jim – it can be as long or short as you feel it should be, and can just be bullets with the latest information on Silver Bow and Anaconda, both AEL sites. I don't feel that we need to regurgitate site background, for example.

We are looking for information by COB Wednesday. Let me know if there is any additional clarification I can offer. THANKS!

<><><><><><><><><><><><><><><>

**JEN HOVIS**
Chief, Construction & Post Construction Management Branch
Office of Superfund Remediation & Technology Innovation (OSRTI)
desk: 703.603.8888 | cell: 571.814.0303 | hovis.jennifer@epa.gov

Silver Bow Creek/Butte Area Site and the Anaconda Smelter Site (February 2018)

The SBCBA Site is a large mine waste site which starts in Butte, Montana and ends at the Warm Springs Ponds, some 23 miles downstream. Butte was the location of over a hundred mines and 22 mills and smelters, which produced a lot of uncontrolled disposal of mine wastes. The SBCBA Site has six operable units with records of decision in place – all in the implementation phase. The initial agreement referenced in the email chain pertains to one of those operable units - the Butte Priority Soils operable unit (BPSOU) which covers much of the city of Butte.

The Anaconda Smelter Site is a nearby mining site closely related to the SBCBA site. There, large smelters produced many tons of smelter and milling waste, as well as the aerial deposition of smelter waste over a very large area. It is a multi-operable unit site with records of decision being implemented in various phases.

The Atlantic Richfield Company (AR), as successor to the Anaconda Copper Mining Company, is the main PRP for the Anaconda Smelter and SBCBA Sites.

The Salish and Kootenai Confederated Tribes (SKC) have reserved treaty rights for traditional hunting, fishing and gathering throughout the SBCBA Site. Region 8 has coordinated and consulted with the Tribe at the SBCBA site in two major ways. First, we invited them to participate in consent decree negotiations for one of the SBCBA operable units - the Streamside Tailings operable unit – to address natural resource damage (NRD) claims by the SKC Tribe. The SKC Tribe used that consent decree negotiation to settle its NRD claims for the SBCBA Site and the contiguous Anaconda Smelter Site and Clark Fork River/Milltown Dam site (the three sites are known collectively as the Clark Fork Basin sites) for several million dollars.

Region 8 also works with the SKC Tribe when we oversee the RI/FS process at the various SBCBA and Anaconda Smelter OUs. Through EPA provided funding, the SKC Tribe identified protected resources covered under the Historical Preservation Act. This information was included in the RI/FS documentation. As the various remedies are implemented (mostly by AR), the resources are either avoided or, if remedy implementation disturbs or destroys these resources, mitigation is provided by AR in various forms.

The SKC Tribe has focused mainly on those OUs involving stream contamination at the Clark Fork Basin sites. Region 8 has involved them in the remedial design process, both for the historic preservation work and for general consultation during remedial design and remedial implementation. We have a good working relationship with the SKC Tribe, and they seem satisfied with the way we have interacted with them.

For the BPSOU site and the recent agreement in principle, the SKC Tribe has not shown specific interest. The BPSOU area is an urban area, and the SKC cultural resource identification did not identify resources there to my knowledge. As we proceed to consent decree negotiations and remedy implementation at the BPSOU site, we will keep the SKC Tribe informed and consult with them during RD and RA.